

This listing of claims will replace all prior versions, and listings of claims in the application:

**Listing of Claims:**

Claims 1-13            (Cancel)

14.    (Currently Amended) A composition of treated HSCs; comprising:  
CD34<sup>+</sup> HSCs derived from umbilical cord blood and lacking or having  
reduced expression of surface protein CD38, wherein at least 10%  
of the CD34<sup>+</sup> HSCs bind to P-selectin or E-selectin; and  
a pharmaceutically-acceptable carrier.
15.    (Original) The composition of claim 14 wherein at least 25% of the  
CD34<sup>+</sup> HSCs bind to P-selectin or E-selectin.
16.    (Original) The composition of claim 14 wherein at least 50% of the  
CD34<sup>+</sup> HSCs bind to P-selectin or E-selectin.
17.    (Original) The composition of claim 14 wherein at least 75% of the  
CD34<sup>+</sup> HSCs bind to P-selectin or E-selectin.

18. (Original) The composition of claim 14 wherein at least 90% of the CD34<sup>+</sup> HSCs bind to P-selectin or E-selectin.

19. (Original) The composition of claim 14 wherein at least 95% of the CD34<sup>+</sup> HSCs bind to P-selectin or E-selectin.

Claims 20-21 (Cancel)

22. (Currently Amended) A blood product comprising:  
a population of treated human HSCs comprising cells characterized as CD34<sup>+</sup> CD38<sup>low/-</sup>, wherein at least 10% of the CD34<sup>+</sup> CD38<sup>low/-</sup> HSCs bind to P-selectin or E-selectin.

23. (Original) The blood product of claim 22 wherein at least 25% of the CD34<sup>+</sup> CD38<sup>low/-</sup> HSCs bind to P-selectin or E-selectin.

24. (Original) The blood product of claim 22 wherein at least 50% of the CD34<sup>+</sup> CD38<sup>low/-</sup> HSCs bind to P-selectin or E-selectin.

25. (Original) The blood product of claim 22 wherein at least 75% of the CD34<sup>+</sup> CD38<sup>low/-</sup> HSCs bind to P-selectin or E-selectin.

26. (Original) The blood product of claim 22 wherein at least 90% of the CD34<sup>+</sup> CD38<sup>low/-</sup> HSCs bind to P-selectin or E-selectin.

27. (Original) The blood product of claim 22 wherein at least 95% of the CD34<sup>+</sup> CD38<sup>low/-</sup> HSCs bind to P-selectin or E-selectin.

28. (Currently Amended) The blood product of claim 22 wherein the treated human HSCs are derived from human umbilical cord blood.

29. (Currently Amended) The blood product of claim 22 wherein the treated human HSCs are derived from peripheral blood.

30. (Currently Amended) The blood product of claim 22 wherein the treated human HSCs are derived from bone marrow.

31. (Original) The blood product of claim 22 further comprising a pharmaceutically acceptable carrier or vehicle.

32. (Original) The blood product of claim 22 further comprising a free fucosyltransferase or a fucosyltransferase bound to a support.

33. (Original) A blood product produced by the method comprising:  
providing a quantity of HSCs, at least a portion of the HSCs lacking or  
having reduced expression of surface protein CD38; and  
treating the quantity of HSCs in vitro with an  $\alpha$ 1,3-fucosyltransferase  
and a fucose donor to produce treated HSCs, wherein at least 10%  
of the treated HSCs bind to P-selectin or E-selectin.
34. (Original) The blood product of claim 33 wherein at least 25% of  
the treated HSCs bind to P-selectin or E-selectin.
35. (Original) The blood product of claim 33 wherein at least 50% of  
the treated HSCs bind to P-selectin or E-selectin.
36. (Original) The blood product of claim 33 wherein at least 75% of  
the treated HSCs bind to P-selectin or E-selectin.
37. (Original) The blood product of claim 33 wherein at least 90% of  
the treated HSCs bind to P-selectin or E-selectin.
38. (Original) The blood product of claim 33 wherein at least 95% of  
the treated HSCs bind to P-selectin or E-selectin.

39. (Original) The blood product of claim 33 wherein the quantity of HSCs are derived from human umbilical cord blood.

40. (Original) The blood product of claim 33 wherein the quantity of HSCs are derived from peripheral blood.

41. (Original) The blood product of claim 33 wherein the quantity of HSCs are derived from bone marrow.

Claims 42-54 (Cancel)

55. (Currently Amended) A composition of treated HSCs, comprising:  
CD34<sup>+</sup> HSCs derived from umbilical cord blood, wherein at least 10% of  
the CD34<sup>+</sup> HSCs bind to P-selectin or E-selectin; and  
a pharmaceutically-acceptable carrier.

56. (Original) The composition of claim 55 wherein at least 25% of the CD34<sup>+</sup> HSCs bind to P-selectin or E-selectin.

57. (Original) The composition of claim 55 wherein at least 50% of the CD34<sup>+</sup> HSCs bind to P-selectin or E-selectin.

58. (Original) The composition of claim 55 wherein at least 75% of the CD34<sup>+</sup> HSCs bind to P-selectin or E-selectin.

59. (Original) The composition of claim 55 wherein at least 90% of the CD34<sup>+</sup> HSCs bind to P-selectin or E-selectin.

60. (Original) The composition of claim 55 wherein at least 95% of the CD34<sup>+</sup> HSCs bind to P-selectin or E-selectin.

Claims 61-62 (Cancel)

63. (Original) A blood product produced by the method comprising:  
providing a quantity of HSCs; and  
treating the quantity of HSCs in vitro with an  $\alpha$ 1,3-fucosyltransferase  
and a fucose donor to produce treated HSCs, wherein at least 10%  
of the treated HSCs bind to P-selectin or E-selectin.

64. (Original) The blood product of claim 63 wherein at least 25% of the treated HSCs bind to P-selectin or E-selectin.

65. (Original) The blood product of claim 63 wherein at least 50% of the treated HSCs bind to P-selectin or E-selectin.

66. (Original) The blood product of claim 63 wherein at least 75% of the treated HSCs bind to P-selectin or E-selectin.

67. (Original) The blood product of claim 63 wherein at least 90% of the treated HSCs bind to P-selectin or E-selectin.

68. (Original) The blood product of claim 63 wherein at least 95% of the treated HSCs bind to P-selectin or E-selectin.

69. (Original) The blood product of claim 63 wherein the quantity of HSCs are derived from human umbilical cord blood.

70. (Original) The blood product of claim 63 wherein the quantity of HSCs are derived from peripheral blood.

71. (Original) The blood product of claim 63 wherein the quantity of HSCs are derived from bone marrow.

72. (Original) The blood product of claim 63 further comprising a pharmaceutically acceptable carrier or vehicle.

73. (Original) The blood product of claim 63 further comprising a free fucosyltransferase or a fucosyltransferase bound to a support.